

Ruffed Grouse Drumming Survey

2005

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Abstract

Statewide ruffed grouse population indices decreased 10% between 2004 and 2005, based on the number of drumming grouse heard during roadside surveys. Changes in indices to breeding grouse populations varied by region, but the statewide mean number of drums/stop did not change significantly ($P = 0.69$) from 2004 to 2005. Drummer densities on the Sandhill Wildlife Area in Wood County dropped 38%. Stone Lake Experimental Area in Oneida County was not surveyed in 2005.

Methods

Statewide

Counts of drumming grouse heard along roadsides were conducted on 114 transects throughout the state in 2005. This roadside survey has been conducted annually since 1964 by DNR wildlife managers, wildlife technicians, foresters, law enforcement personnel, USFS staff, and Ruffed Grouse Society volunteers to determine grouse population trends throughout Wisconsin. A new 10-stop survey on 117 randomly located transects was initiated in 1994 and continued in 2005. One transect which had been accidentally left out of the original survey design was added in Waupaca county in 1999, bringing the statewide total to 118. This year marked the twelfth year that the "new" ruffed grouse surveys were run. As per the change over plan, no "old" drumming routes were run since 1996. Also, "new" routes which had counts of zero for the first three years were not to be run for three years. After that three year period, they were to be run again to confirm that they indeed were still zero. Most of these "zero" routes were run again in 2000 and in 2004.

Procedures for the "new" routes were similar to the earlier survey protocols except for one count instead of two and 10 stops instead of 15. Survey data were entered into the DNR UNIX computer system and summarized using the Statistical Analysis System (SAS).

Research Census Areas

DNR research personnel have conducted a census of drummers on Sandhill Wildlife Area and Stone Lake since 1968. This survey has provided comparative statistics on population trends and an estimate of drummer density. Searches for males were conducted during favorable weather between 1 April and 10 May. The census on the Sandhill Wildlife Area encompassed 2,020 acres of grouse habitat in the area open to hunting and 1,300 acres within the unhunted portion of the area. The census on the Stone Lake Experimental Area in Oneida County encompassed 3,310 acres of grouse habitat. Due to personnel shortages, the Stone Lake Area was not surveyed in 2005.

Results

Statewide

Responses were received from wildlife managers, wildlife technicians, and other cooperators that helped conduct the survey on 114 survey transects in 2005. This is two less than the total number of transects (116) run in the spring of 2004.

Statewide, ruffed grouse population indices declined in Wisconsin between 2004 and 2005 (Table 1). Survey indices show a decline in drumming grouse in two of the four regions of the state (Fig. 1), but overall density decreases were not significant ($P = 0.69$) during 2004-2005. Transects completed in both 2004 and 2005 were compared to detect population changes. Transects were considered to have changed from last year if the change was greater than two drums per transect. The number of transects with decreased drumming outnumbered by 39 to 18 those that showed increases, with 56 transects unchanged.

Overall, breeding grouse populations declined from 2004 levels. It appeared that populations had leveled off in the state in 2004, but brood production in 2004 was down from the previous year and may have set the stage for a decrease in breeding grouse in 2005. With 2 of the 4 regions of the state showing increases in breeding grouse, optimism is high that 2005 is the bottom of the current grouse cycle.

Survey conditions for 2005 were very similar to those in 2004. Surveyors rated the overall conditions as "excellent" on 47% of the transects, while 51% rated the overall conditions as "excellent" in 2004. Surveyors rated the conditions as "Fair", the lowest available weather condition rating, 10% of the time in 2005 compared to 13% in 2004. The percent of observers rating the conditions as "excellent" was still below the highest level of 68% recorded in 1998. Survey conditions do influence drumming activity and may cause grouse numbers to be over or under estimated.

Research Census Areas

Grouse numbers on the Sandhill Wildlife Area were down despite the increase in drumming in the central region (Table 2). Sandhill Wildlife Area declined 38% (29 vs. 47 birds in 2004) while the central region of the state showed an increase of 26% in drumming activity. The unhunted portion of the wildlife area (1,300 acres) decreased by 6 birds in 2005 (15 vs. 21 in 2004). The hunted portion of the wildlife area (2,020 acres) had a larger decrease, with 14 birds counted in 2005, down from 26 in 2004. The survey technique used to measure grouse densities on this area is different than that used on the statewide survey. Any comparison of these results to statewide totals should be done cautiously. The Stone Lake census area was not surveyed in 2005 due to a shortage in personnel.

Table 1. *Ruffed Grouse drumming results 2004-2005, drums per stop (routes run), % change, and number of routes with a change of greater than 2 drums per route from 2004 levels.*

Region	Drums/Stop 2004 (routes run)	Drums/Stop 2005 (routes run)	% Change	# of Decreasing Routes	# of Increasing Routes	# of Routes with No Change
Central	0.76 (26)	0.96 (27)	+26%	6	10	10
Northern	1.10 (43)	0.80 (43)	-27%	24	5	14
Southeast	0.06 (30)	0.09 (28)	+50%	1	2	25
Southwest	0.50 (17)	0.36 (16)	-28%	8	1	7
Statewide	0.67 (116)	0.60 (114)	-13%	39	18	56

Table 2. *Drummer densities on the DNR research census areas, 2004-2005.*

Area	No. of Drummers (No./100A)	
	2004	2005
Sandhill Hunted (2,020 Acres)	26 (1.3)	14 (0.7)
Sandhill Unhunted (1,300 Acres)	21 (1.6)	15 (1.2)
Stone Lake Exp. Area (3,310 Acres)	88 (2.7)	No Data

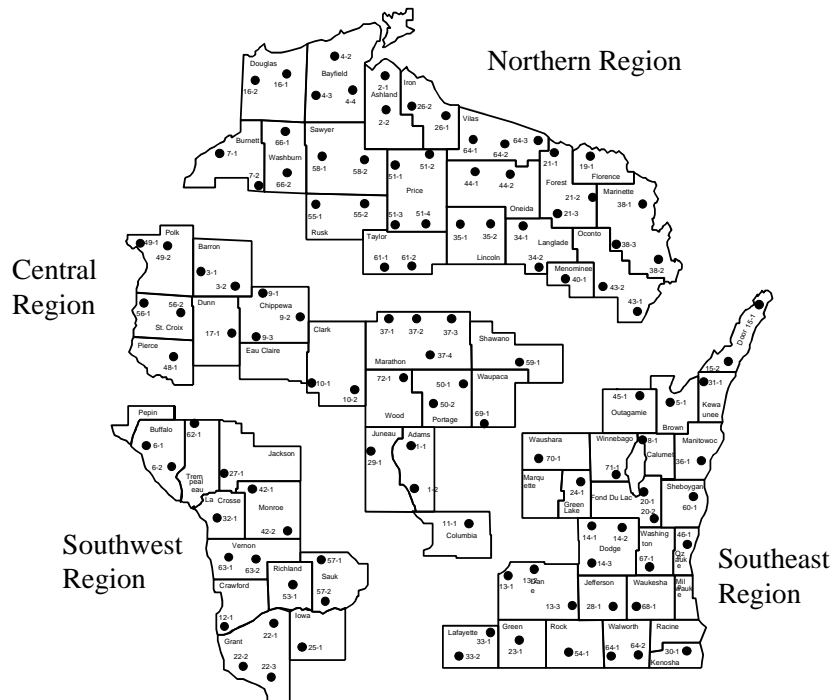


Figure 1. *Ruffed grouse drumming regions with transect starting points.*

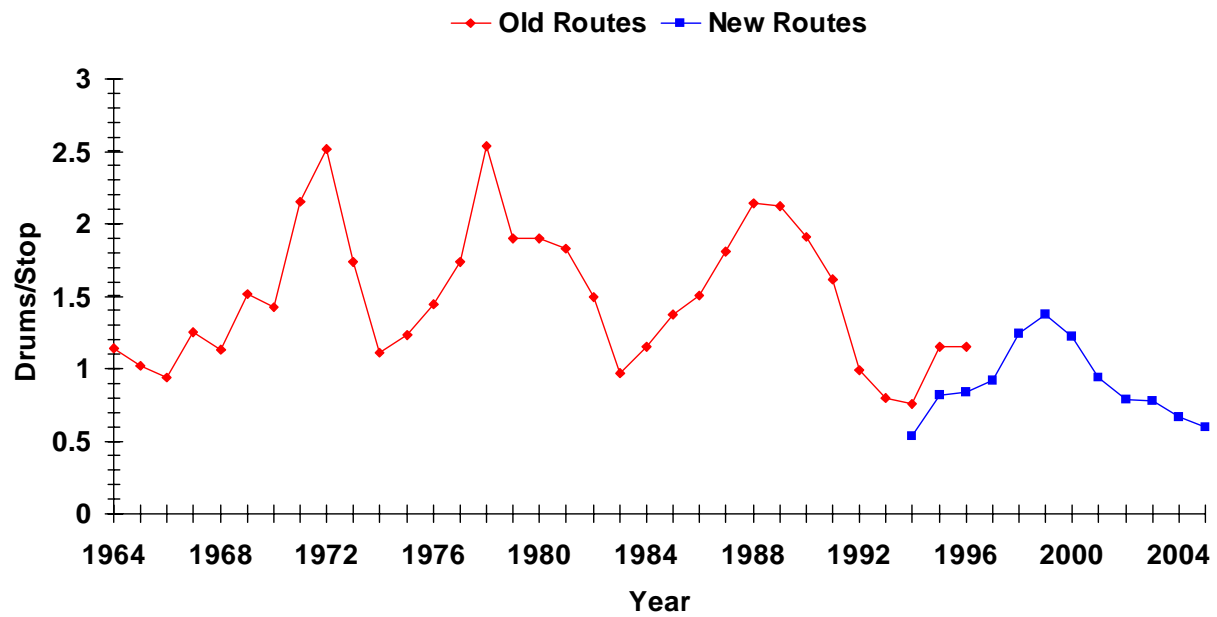


Figure 2. Mean number of drums/stop on ruffed grouse drumming routes, 1964-2005.